

## **HYV Rice Seeds Accessibility and Availability in India and Bangladesh *Stakeholders' Perspective***

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## **Abstract**

Implementation of the project 'Addressing Barriers to Rice Seeds Trade between India and Bangladesh' (RISTE) has contributed to a constructive dialogue on trade and cooperation between the two countries. Through action research, networking and advocacy, it has involved policy makers, research organisations, NGOs, media and foreign trade specialists from both countries. This has provided excellent opportunities for influencing reforms for formalising trade and cooperation, better knowledge sharing and harmonisation of seed regulations and trade policy between the two countries.

This set of seven case studies (four from India, and three from Bangladesh) is premised on interactions of the project team with stakeholders engaged in rice seed supply chain in India and Bangladesh. It presents stakeholders perspectives on issues related to ensuring adequate availability and accessibility to variety rice seeds. The revelations from the case studies are pointers to the fact that despite lack of any official arrangements between India and Bangladesh, sharing of knowledge in the form of seeds continues. These also reveal major issues and challenges faced by farmers in the two countries in accessing quality seeds, and how informal access to seeds are helping farmers in meeting their requirements of quality rice seeds. Therefore, there is urgent need for the governments of both countries to come forward and create a mechanism for formal knowledge sharing, trade and cooperation. It will benefit farmers, seed producers, seed dealers and traders.

## Introduction

Implementation of the project ‘Addressing Barriers to Rice Seeds Trade between India and Bangladesh’ (RISTE) has culminated in several new revelations. These include specific information on informal trade, gathering of farmers’ and seed producers’ perspectives on formalisation of trade, identification of rice seed varieties informally traded and points of informal trade.

Further, the project seems to have contributed in creating a soft ground for dialogues between stakeholders in India and Bangladesh, as reflected by the proposed memorandum of understanding (MoU) between apex seed associations (National Seed Association of India and Bangladesh Seed Association) of the two countries. This might prove beneficial in the long run as it could pave way for similar arrangements between similarly placed stakeholders.

This set of seven case studies (four from India, and three from Bangladesh) is premised on interactions of the project team with stakeholders engaged in rice seed supply chain in India and Bangladesh. It present stakeholders’ perspective on issues related to ensuring adequate availability and accessibility to variety rice seeds.

In case of India, the first case study ‘High Demand for Bangladeshi Rice Seed Variety in India: *A Case of BB (BR)-11*’ shows how variety seed from one country has gained popularity and its unrestricted use in other.

The second study ‘Formalisation of Trade in Variety Rice Seeds to Expand Local Market: *Debgiri Agro Products*’ presents a seed producer’s perspective on how, considering the existing demand, formalisation of trade would help in increased availability of desired varieties. This will lead to expansion of the seed market.

It is also expected that formalisation of variety rice seeds trade will curtail violation of IPRs, as demonstrated by the third case study ‘Formalisation of Rice Seed Trade is Likely to Curtail Violation of IPRs: *Bharat Nursery*’.

Initiatives towards formalisation of rice seeds trade should start with those varieties that are already in demand across the border, as described in the fourth case study ‘Trade in Variety Rice Seeds Needs to be Demand Driven’.

Three case studies from Bangladesh, as in the case of India, are reiteration of stakeholders’ perspectives towards formalisation of trade in rice seeds between two countries. Fifth case study highlights popularity of Indian rice seeds varieties amongst Bangladeshi farmers. It also highlights farmers’ concern on non-availability of desired Indian varieties.

Sixth case study presents seed traders’ perspective on the need for formalisation of trade in variety rice seeds between the two countries. The seventh case study highlights how formal trade in variety rice seeds would help in addressing the issue of adulteration.

Major issues identified through the case studies are described as follows.

## Case Studies

### **High Demand for Bangladeshi Rice Seed Variety in India: A Case of BB (BR)-11**

The Dada Bhai Seed Farm, located in Nadia district of West Bengal and close to India-Bangladesh border, is unique in the sense that it produces a highly popular rice seed variety – BR 11 – having its origin in Bangladesh. The seed is locally named as BB 11 and sold to markets in West Bengal and neighbouring states. According to Jaydeb Biswas, the Proprietor, Dada Bhai Seed Farms, ‘the farm produced nearly 800 tonnes of BB-11 in 2014.’

Dada Bhai Farm produces BB-11 as a truthfully labelled (TL) seed and sells these under the brand name of Dada Bhai seeds. Within the state, BB 11 seeds are mainly sold at Cooch Behar and Bashirhat and other sale points as per the demand of the dealers.

“This particular rice seed variety (BB-11) has a very high demand in the Indian seed market. It is preferred because of its high yields; and property of non-stickiness and suitability to the agro climatic conditions. In 2014, my firm sold around 300 tonnes of BB-11 alone at the district of Murshidabad in West Bengal”, argue Jaydev Biswas.

Beside rice seeds, the farm also produces rice seed varieties, such as Shatabdi, Nyonmoni and Malika, all having their origin in India.

The traces of BB-11 dates back to 2005 when this firm received around 300 kgs of seeds from farmers residing at the border villages in the Indian side. After some initial trial at the farm level, the variety was found to be adaptable and showed good yields. Consequently, Dada Bhai Seed Farm started production of this variety in order to target a wider seed market in India. Currently, this seed variety is sold in Indian states of Jharkhand, Bihar, Assam and Uttar Pradesh.

It is worthwhile to note that Dada Bhai Seed Farms is one of the leading HYV seed producers in West Bengal. Besides rice seeds, the farm produces variety seeds of several crops including rice seeds, pulses seeds, oil seeds (majorly groundnut), potato seeds and maize seeds. The firm started off in 1998. However, it became fully operational since 2007 with assistance from the Ministry of Agriculture, under the National Seed Policy, 2002. With its production unit set up thereafter, it started seed production and sale from 2008 onwards. According to Jaydeb Biswas, the farm is one of the largest seed suppliers to National Seed Corporation (NSC).

Starting with a very low capacity in late 1990s, the farm achieved an annual production capacity of 500 metric tonnes in 2007. In 2014, its annual production capacity increased to 6000 metric tonnes, an increase of 14 times.

“Considering the adaptability and high demand for Bangladeshi varieties in India – BB-11 has been adopted by farmers and become quite popular particularly in West Bengal and Assam – cooperation between India and Bangladesh could be enhanced if bilateral trade in breeder seeds (such as BB-11) is formalised,” argued Jaydeb Biswas.

Non-availability of BB-11 breeder seeds seems to be a serious deterrent that has been hindering further yield advancement of this particular variety of rice seed. “Since breeder seeds of BB-11 are not available in India, no further advancements are happening in seed

yields. As a result, we have not been able to improve the yield potential of BB-11 seeds, he said. “I shall be happy if the two countries have some arrangements to share and access breeder seeds of popular varieties such as BB-11,” Jaydeb Biswas further added. Such arrangement will not only be beneficial to the seed producers, dealers and traders but also to farmers.

### **Formalisation of Trade in Variety Rice Seeds to Expand Local Market: *Debgiri Agro Products***

“Both India and Bangladesh have unsaturated demand for variety rice seeds and therefore formalisation of trade between India and Bangladesh in variety rice seeds will expand local seed market and help farmers to access desired varieties at affordable prices and at right time,” said Debashish Giri, Managing Director, *Debgiri Agro Products*.

According to Giri, “seed market in Bangladesh, as in India, is recently showing a bullish trend. This is reflected by our own experience in Bangladesh.” *Debgiri* seeds have been able to generate a good response in the Bangladesh seed market, especially in traditional open pollinated and hybrid seeds of vegetables and fibre crops. This has resulted from a good brand image of and its garnered goodwill. The company recorded a growth of more than 10 per cent over the last few years.

Looking at the company’s current business growth and the bullish seed market, *Debgiri* seeds projects a higher trade volume with Bangladesh in various seed varieties if trade is formalised, restrictions are removed, infrastructure is developed and trade processes are made more trader-friendly.

Recent information suggests that prices of various seeds including variety rice have been increasing in Bangladesh along with the demand. This is reflective of two things: while the demand is rising and local suppliers are not able to cope up with rising demand of desired varieties; the capacity to produce and market desired varieties is less than adequate. This, in turn, is pushing up seed prices. “We shall like to be part of this bullish market, particularly variety rice seeds market,” said Debashish Giri.

The company (*Debgiri Agro Products*) incorporated in 1998 is located at Ranaghat in the Barrackpore subdivision of Kolkata, West Bengal and is a leading seed producing company in West Bengal. It is engaged in the production of open pollinated and hybrid seeds of various food crops. These include seeds of vegetables and fruits, cash crops including jute. Some of the popular seeds produced by the company are OP bitter gourd, OP brinjal, OP cabbage, OP capsicum, OP ladyfinger, hybrid cabbage, capsicum, bitter gourd, beet and jute, etc. Quality seeds are produced using the latest technology and by following the mandatory industry standards and practices.

The company is also into seed trade business. It is a major exporter of seeds. Value wise, more than 40 per cent of its revenue is generated from its export to Bangladesh. The company has presently a monthly seed production capacity of 100 tonnes and an annual sales volume of Rs 50mn.

“Based on some recent developments – signing of the protocol between India and Bangladesh – we are gearing up to use the opportunity arising from a potential formalisation of trade in variety seeds between India and Bangladesh. We are in the process of applying for export and

import license for trading in variety rice seeds,” said Debashish Giri. Furthermore, “such an arrangement is certainly going to expand local seed market in two countries,” he added.

### **Formalisation of Rice Seed Trade to Curtail Violation of IPR Issues: *Bharat Nursery***

“The growing proportion of informal trade between India and Bangladesh raises concerns over the issue of IPR violations apart from the concern on tariff and non-tariff issues. Cases of seed duplication and resulting violation of intellectual property rights (IPRs) are abundant. Due to prominence of informal trade (mainly through smuggling from land routes), certified and protected rice seed varieties are duplicated and used on a large scale in both India and Bangladesh. Furthermore, since IPR regulatory regimes are not harmonised between India and Bangladesh, tracking duplication becomes very difficult and directly violates IPRs, and also Article 27.3(b) of the Trade-Related Aspects of Intellectual Property Rights (TRIPs) agreement which requires signatory countries to provide protection for plants varieties in the form of patents or through establishing ‘an effective sui generis system’ of protection for plant varieties. Formalisation of trade in variety rice seeds will certainly help reducing the cases of IPR violation,” argued Ashoke Ghosh, Director, Bharat Nursery (BNPL).

BNPL is almost a century-old seed company, established in 1918, in West Bengal. The company is engaged in production, import and export of vegetable seeds for a long period. It also undertakes export of certified jute and other seeds to Bangladesh. As per the company, of late, BNPL has gone into production of OP seeds of paddy. Ghosh said that, “the increasing demand for variety rice seed in the domestic market is quite encouraging.” BNPL and its product-brand CHAKRA are now familiar names to people associated with agriculture and seed market in India, Bangladesh and other countries.

According to Ghosh, solution to violations of IPRs lies in the promotion of formal trade. Formalisation will help and make tracking IPR violations much easier. Further, as an effective trade remedy, he opined for harmonisation of IPR regimes specifically in the case of mandatory registration of variety seeds. Such provisions will allow breeders to control access to their varieties, and give them freedom to decide which company can produce a registered variety. This way, breeders in Bangladesh and vice versa can register their varieties in other country and ensure that there is no infringement of their IPRs relating to a particular variety.

Highlighting other concerns on trade effectiveness and the need for making the trading system efficient, he stressed the point that due to non-tariff trade barriers import of OP seeds from Bangladesh is not allowed through land routes. Lack of plant quarantine offices in Petrapole on Indian side of the border is a serious impediment hindering trade.

As a result, BNPL has to rely on air or sea route for imports. Even though, inland water ways seems to be the most viable option in terms of cost of transporation, but the problem remain as the seed consignment first goes from Chittagong to Singapore and from there it comes to Kolkata. This is primarily because quarantine office is located at Kolkata, far from the Petrapole border.

“There is an urgent need to attend to this issue to facilitate formal trade in variety seeds between India and Bangladesh,” he opined. Formalisation of trade in variety rice seeds will certainly help in reducing the cases of IPR violation,” he further opined.

## Trade in Variety Rice Seeds Needs to be Demand Driven

Trade in variety rice seeds will certainly help farmers in the border areas to get better quality seeds at competitive prices. However, such trade should be demand driven, and this should come through a process of local trials. Variety rice seeds should be tested for its adaptability in local conditions. This came out from stakeholders' consultation meeting organised during December 18-22, 2014 by Mukti in association with CUTS International in two bordering areas. The consultation meetings were organised at Chandpara (near Petrapole border) and Teor, Balurghat (near Hili border) in West Bengal. Farmers, *Panchayat* heads, some government officials participated in the meeting.

Adaptability of seeds to local conditions is a major issue which remains neglected in most of the rice growing areas in India, especially eastern region. Several reasons are cited for this. Some important ones include lack of awareness among farmers, and inadequate technical support from the government. Experts are of the view that soil testing should be made an important part of cultivation and this in turn might reduce the cost of the production and also improve yield and production capacity of land.

Use of farmers' saved and access of variety seeds through informal exchange seems to be regular sources of rice seeds in two areas (Chandpara near Petrapole, and Teor near Hili border). Stakeholders expressed their awareness and knowledge of significant volume of variety rice seeds crossing the border between India (West Bengal) and Bangladesh.

Instances of movement of some varieties from Bangladesh are also reported. 'I have witnessed bags of variety rice seeds crossing border', stated one of the farmers on the condition of anonymity who participated in the consultation meeting and who lives half-a-kilometre away from the India-Bangladesh Petrapole border. In addition, rice seeds also cross border through relatives and members of divided families, is argued by some stakeholders.

Variety rice seeds used by farmers in two areas are time tested. Some of the most popular and seemingly most adaptable rice seeds varieties in areas near Petrapole border include Shatabdi (4786), Swarna (7029), Nayanmoni and some others. Yields of these varieties are found to be quite satisfactory and farmers seem to be happy with their performance. Farmers also revealed that there is no problem like scarcity or non-availability of seeds. Even at the quality front, farmers seem to be satisfied as the germination rate is found to be above 70 percent.

Interestingly, it is revealed by farmers that these varieties (Satabdi, Swarna, etc.) are also very popular in Bangladesh, and are high in demand. Satabdi and Swarna seem to have given quite satisfactory results to farmers in Bangladesh. Informal trade and movement of some of these varieties across the border are because of this factor. Further, it is revealed that farmers in Jessore and Khulna in Bangladesh are very keen to get those seeds from India.

On the other hand, through farmers are aware of BB 11, a variety having its origin in Bangladesh and equivalent to BR 11, this variety is not much in use. It seems informal movement of variety rice seeds in this area is one way.

Stakeholders are of the opinion that opening of trade and increased cooperation between India and Bangladesh will open up opportunities for farmers and seed traders. While farmers would be able to get better quality of seeds at competitive prices, cooperation would lead to greater innovation shortening of time required for research and development of variety seeds.

Farmers see the development relating to trade and cooperation as opportunity to access new and better rice seed varieties with better yield and return. ‘Flow of good quality of seed across the border will certainly benefit farmers in both the countries, but it needs to be demand driven’ argued an official present at the meeting.

### **In Jessore, Demand for Indian Rice Seeds Varieties More than Supply**

Ayub Hossian belongs to higher middle income farmer group with personal cultivable land of about 22 *bigha* (1 *bigha* = 33 *decimal* = 3.21 *hectares*) in Jessore district of Bangladesh. Normally, he cultivates paddy, jute, mustard, mango, etc. within which about 4 *bigha* land is utilised for paddy only. About 4 years back, he collected ‘super Miniket’ rice seeds informally from some Indian farmers. He cultivated those seeds in 20 *decimal* land and kept aside from others rice seeds for reserving to sale in the next seasons to local farmers. Hossain said, “Quality seeds are not available in this locality and local seeds businessmen can’t assure quality seeds. Most of the time adulterated seeds are found in the both HYV and Hybrid seeds packets”.

He revealed that new seeds are informally purchased from Indian farmers at an interval of four-five years and replicated for personal uses and also commercial purposes. The production of ‘super Miniket’ per *bigha* varies between 880 kg to 1000 kg in *boro* season. Besides that Hossain cultivates Guti Swarna in *aman* season. Those seeds were informally purchased from border around four-five years back. The production of Guti Swarna per *bigha* varies between 600 to 650 kg. In the Jessore border belt area, the production of the Indian Swarna and Miniket varieties are comparatively higher than Bangladeshi HYV seeds (120-140 kg higher production).

Ayub Hossian further revealed that there is huge demand of Indian varieties in those border belt area but the available informal Indian seeds are not reliable in quality. “If Indian Swarna and Miniket seeds were imported formally and made available in those areas, farmers would have certainly benefitted. Availability of quality seeds will increase aggregate production and market price”, he said.

In line with increasing demand for Indian rice seed varieties in Jessore district, seed traders are able to sell larger quantity of rice seeds of Indian origin. This is revealed by Habibur Rahman, a local seeds trader.

Habibur Rahman sells imported hybrid and high yielding varieties, *viz.* SL-8, Syngenta 1201, BR-28 etc in Jessore district of Bangladesh. In addition, Indian Miniket (Gangajoli, Gangkabari, Shotabdi, Sufol) varieties are informally collected from the local farmers who are replicating these on their own farm. He informed that most of the farmers, about 90 per cent, are cultivating Indian HYV seeds because of its higher productivity compared to domestic HYV seeds (BR-11, BR-28, etc.) in these border areas.

He said, “Demand for Indian HYV varieties particularly Miniket and Swarna are increasing day by day. I have sold different types of Miniket varieties about 950 kg in 2013 and 1000 kg in 2014”. The main reasons for cultivating Indian varieties are the grain quality – grains turn out to be less thick – have higher productivity per *bigha*, provides higher value and witness higher demand in market. Seeds can be replicated three times after purchase.

He said, “The small and medium farmers are purchasing Indian varieties every year through informal channels”. He thought that the formal import of HYV seeds would be beneficial for the local farmers and also businesses, as these have higher demand in the market.

### **Farmers in Hili Border want Formal Trade to Avoid Counterfeit Seeds**

Md. Ali, a resident of Hili district of Bangladesh, mainly cultivates rice in Boro and Aman seasons. He cultivates in Boro season using Indian HYV seeds like Jira Shail (Miniket), Vitti 28 and during Aman season, he cultivates Swarna-5, Guti Swarna. Besides Indian seeds, he also uses local seed BRR-11. He collects Indian seeds from local dealers, but uses preserved Swarna-5 and Guti Sarna during Amon season.

No major hindrance in collecting Indian variety seeds is noticed, he noted. Dealers supply Indian seeds in original Indian bags, but the real source of this seed is completely unknown to him. There is a common allegations against dealers that they sell local seeds under the name of Indian seed tagged in Indian bags. He also informed that once the seeds fails to provide expected seedling, dealers take the seeds back.

However, this is not a good solution for the farmers as they already lost money and time – farmers get seed returned which is no longer useful at the end of the season. Md. Ali urged that supply chain should be centralised with a single dealer who can supply quality seeds in time, which must be imported formally.

He reported that productivity of Indian seeds is undoubtedly higher than local ones. He produced 940 kg rice per *bigha* from Indian seeds in 2015, which is higher than that of the 2014. Low production is due to the low quality local seed as well as water shortage. Although local seed BR-29 can produce paddy, but amount of rice is comparatively lower. For example, 24 kg rice is produced per 40 kg paddy from Miniket, where it is only 20kg from BR-29.

Md. Ali claimed that about 80 per cent farmers use Indian seeds and it is no longer considered to be foreign seeds; rather it is treated as local seeds. Therefore, he urged that these seeds should be imported through formal channels. The best possible practice will be initiated by providing Indian parent seeds to local producers so that they can produce the same seed within Bangladesh to avoid complexity of import. This will give the scope to get quality seed in time and low cost. This process may help the farmers avoid risk associated in crop production and ensure high production with minimum cost.

### **Some Final Thoughts**

Six case studies presented above provide perspectives and preferences of stakeholders, primarily farmers, seed dealers and traders. These are pointers to the fact that despite lack of any official arrangements between India and Bangladesh, sharing of knowledge in the form of seeds continues. These also reveal major issues and challenges faced by farmers in the two countries in accessing quality seeds, and how informal access to seeds are helping farmers in meeting their requirements of quality rice seeds.

Significant improvement in seed production and availability in the two countries over the last few years has not been able to resolve issues relating to accessibility of quality rice seeds. Considering the porous border and prevalence of informal trade and exchange between the

farmers of the two countries, there is urgent need for the governments to come forward and create a mechanism for formal knowledge sharing, trade and cooperation. It will benefit farmers, seed producers, seed dealers and traders.